Occupational Surveillance: United Automobile Workers of America, International Union

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Health and Safety Department

Demographics

- 94% Males
- Average Age = 45 years
  - Standard Deviation (11.42)
- Average Seniority = 17 years
  - Standard Deviation (14.4)

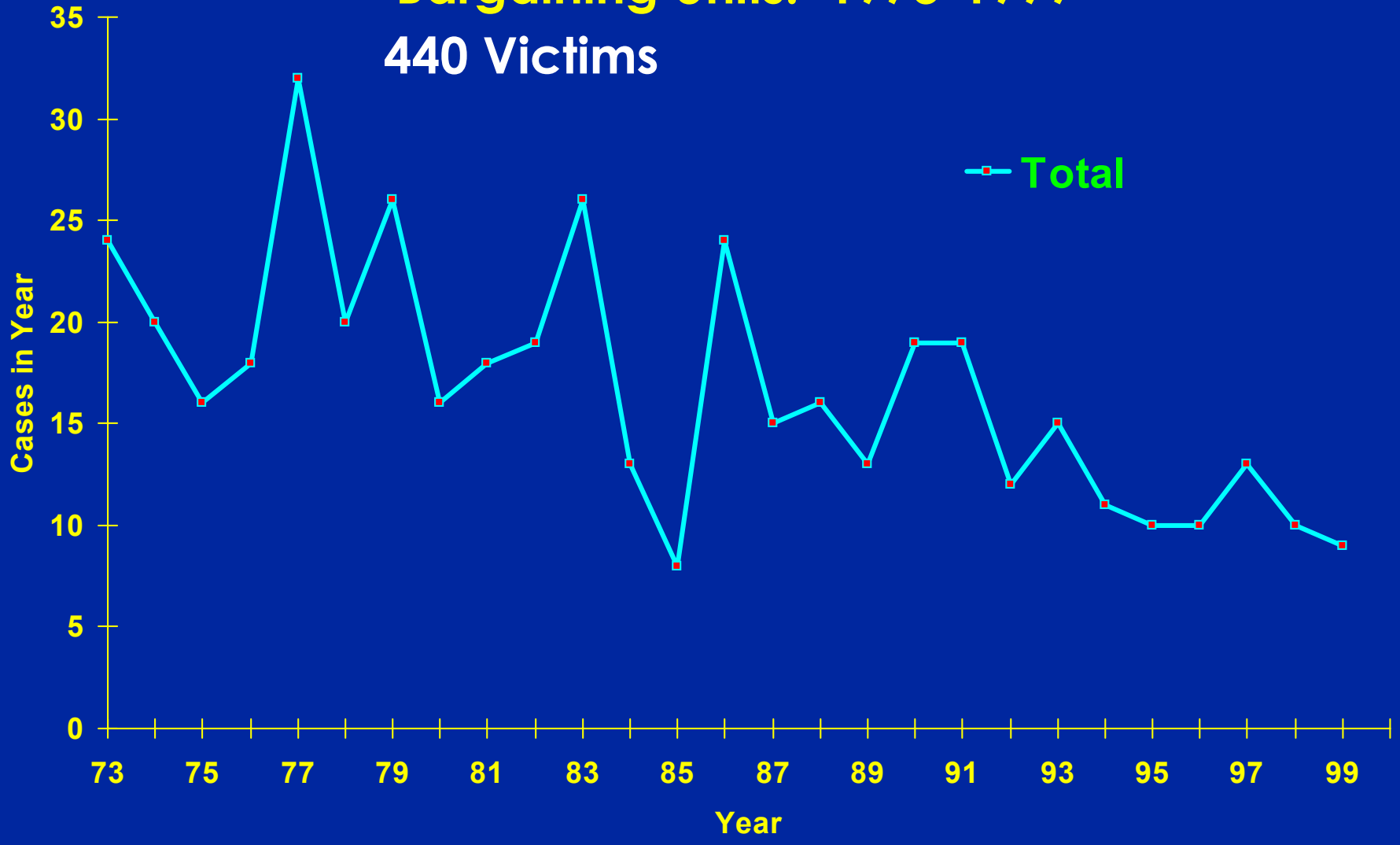
Fatal Injuries in UAW Represented Bargaining Units -- 2000

- 15 victims
- 8 victims in Big 3 or spin off
- 5 victims were skilled trades workers
- 5 incidents involved crane or powered industrial truck
- 6 equipment repair related
- Total since 1973 = 455

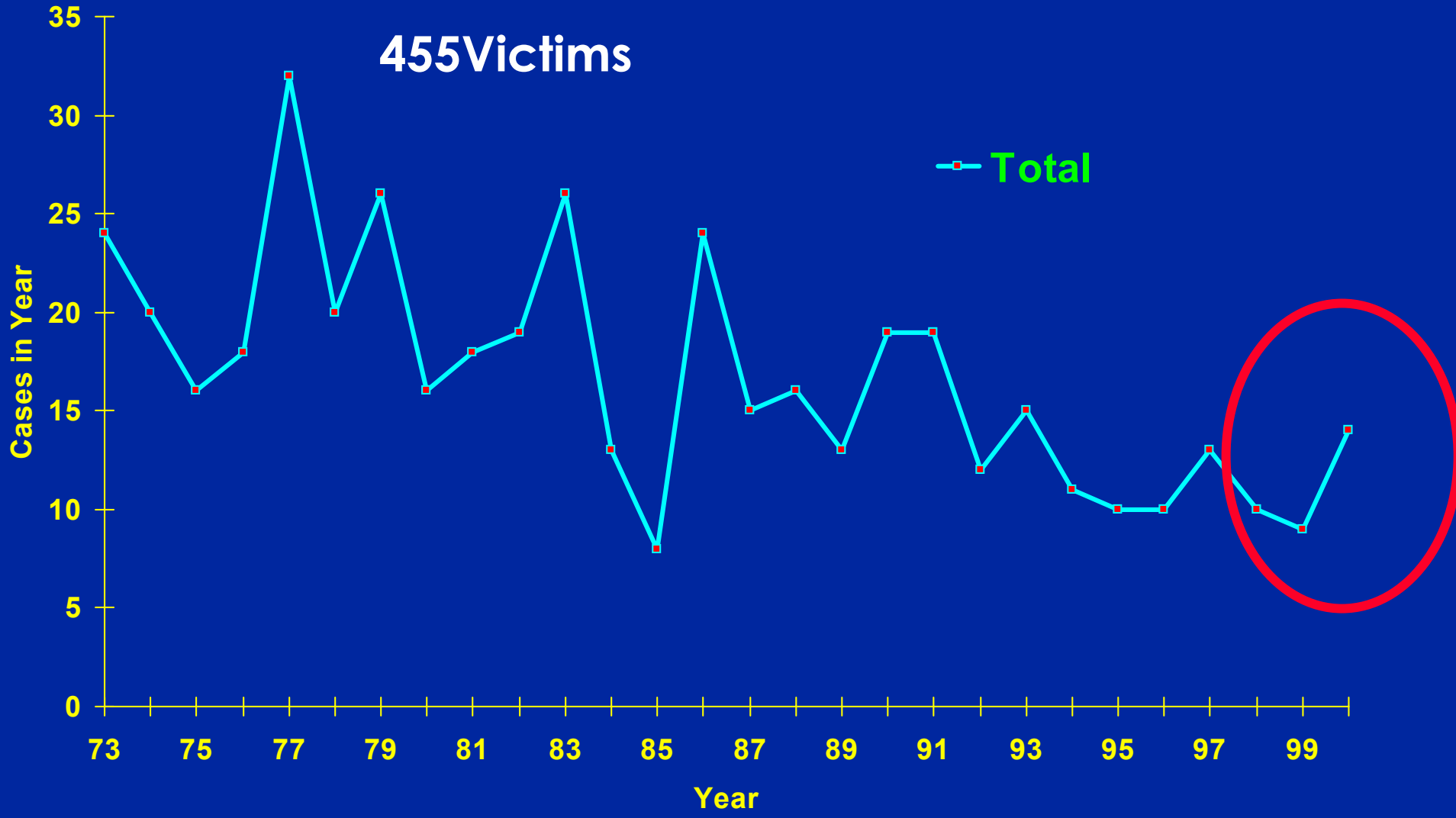
2001 Fatalities

- 8 caught, struck or crushed
- 2 Legionnaires' disease
- 4 from "Big 3"
- 0 skilled trades
- 2 public employees (traffic related)
- 4 powered material handling vehicles
- Total since 1973=466

Occupational Fatalities in UAW Represented Bargaining Units: 1973-1999

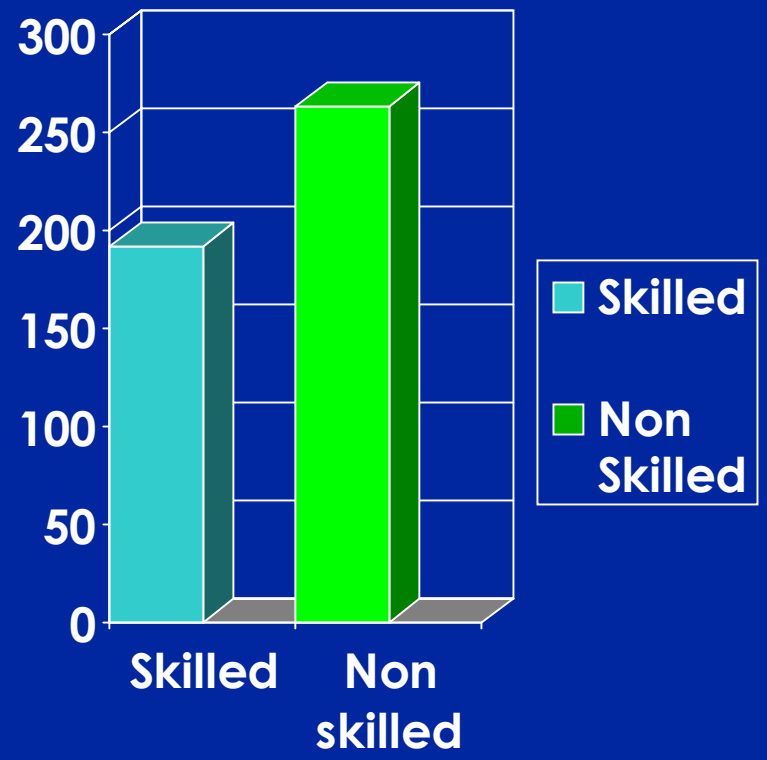


Occupational Fatalities in UAW Represented Bargaining Units: 1973-2000



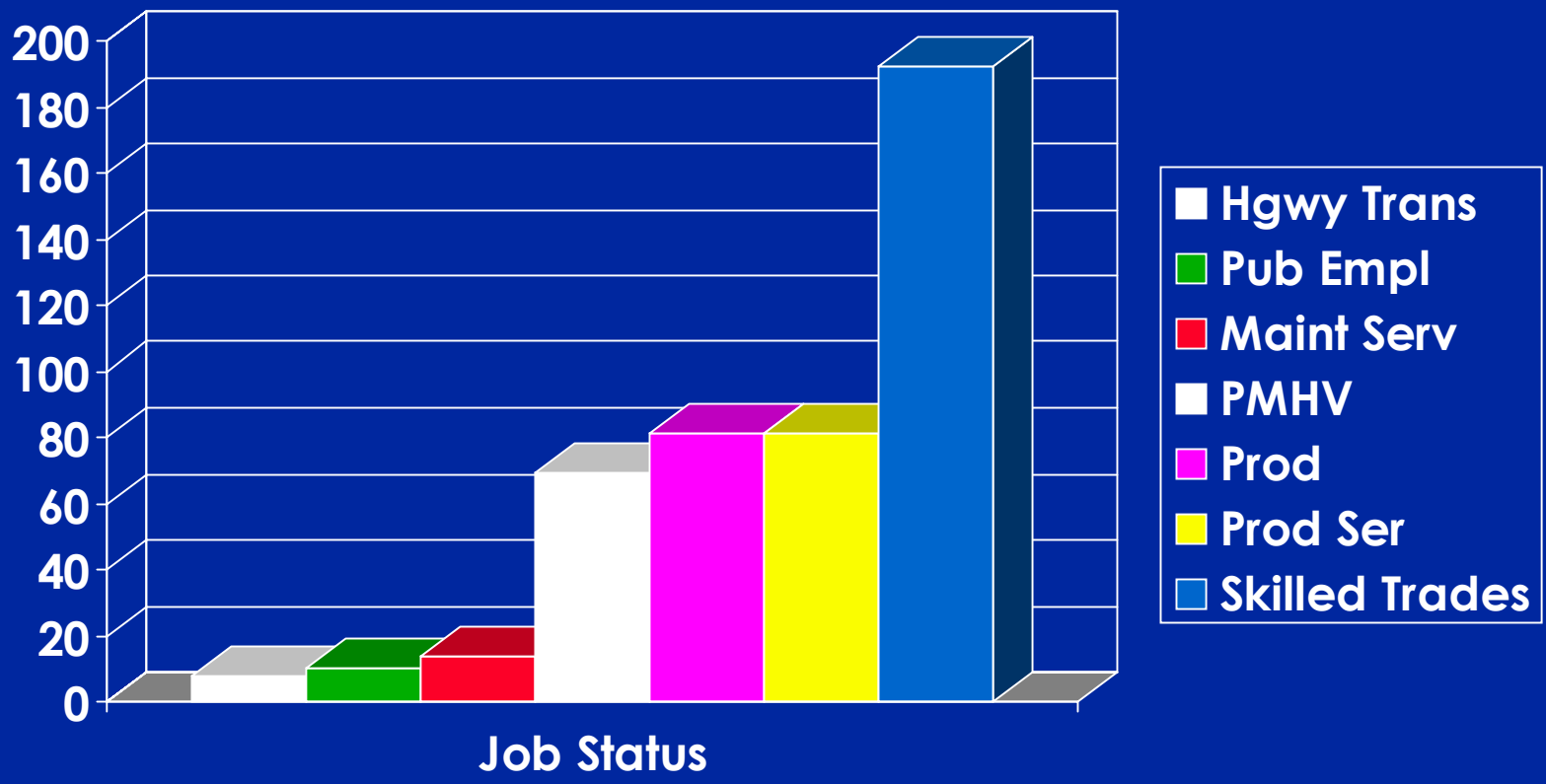
Fatality Incident Rate in UAW Bargaining Units: 1975-1999

Fatalities by Skilled Trades Status

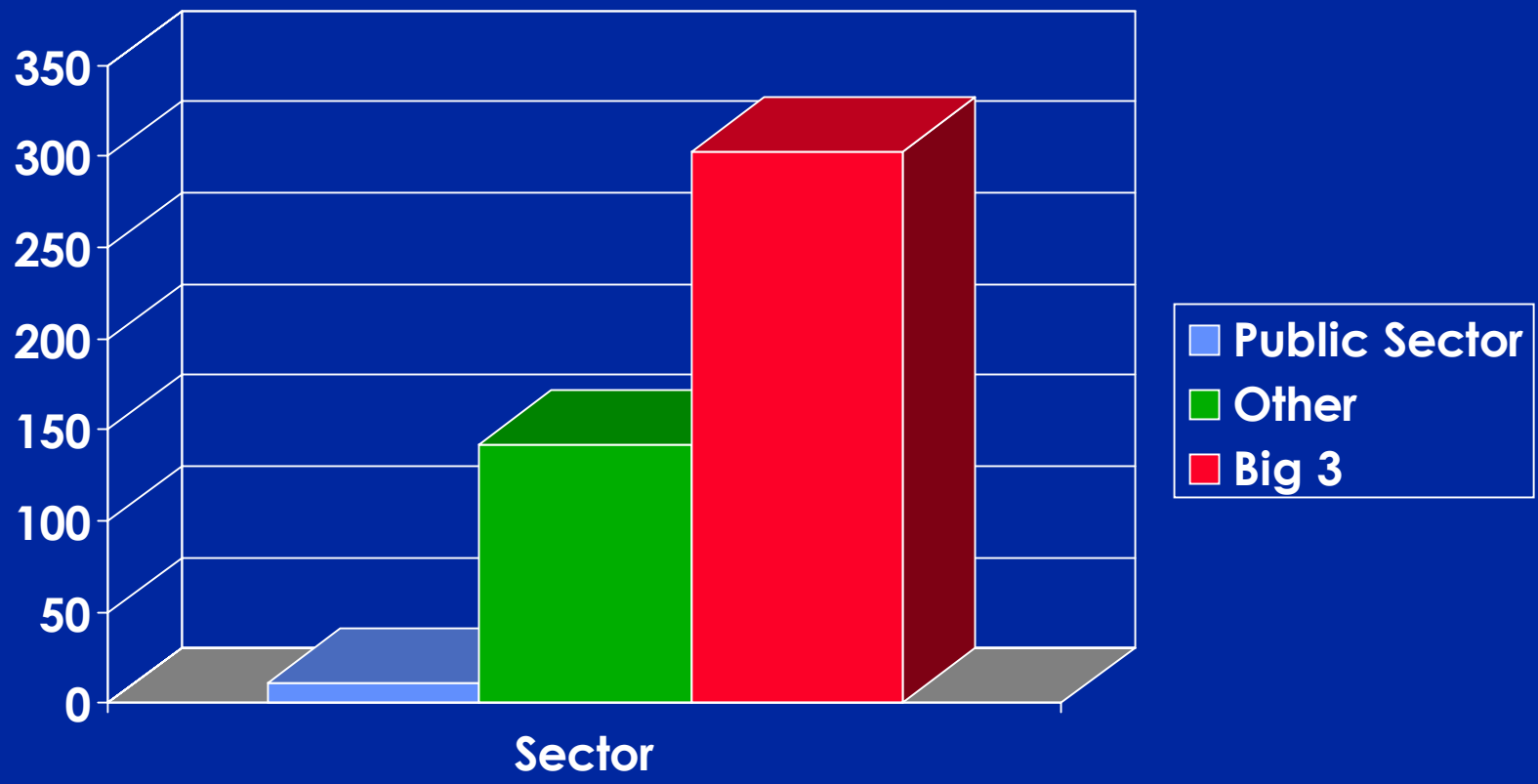


- Skilled Trades (N=192)
- Non Skilled Trades (N=263)

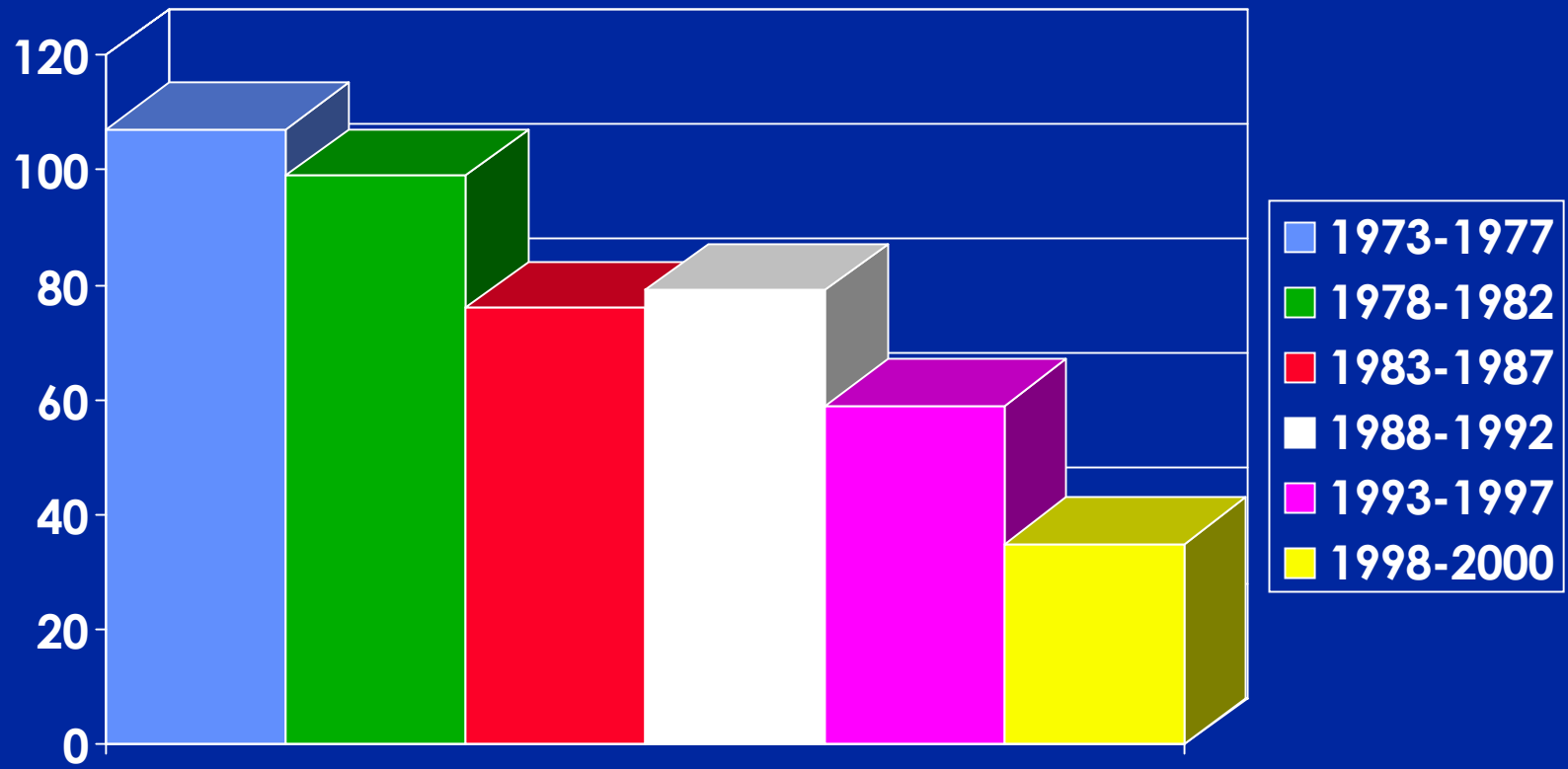
Fatalities by Job Status



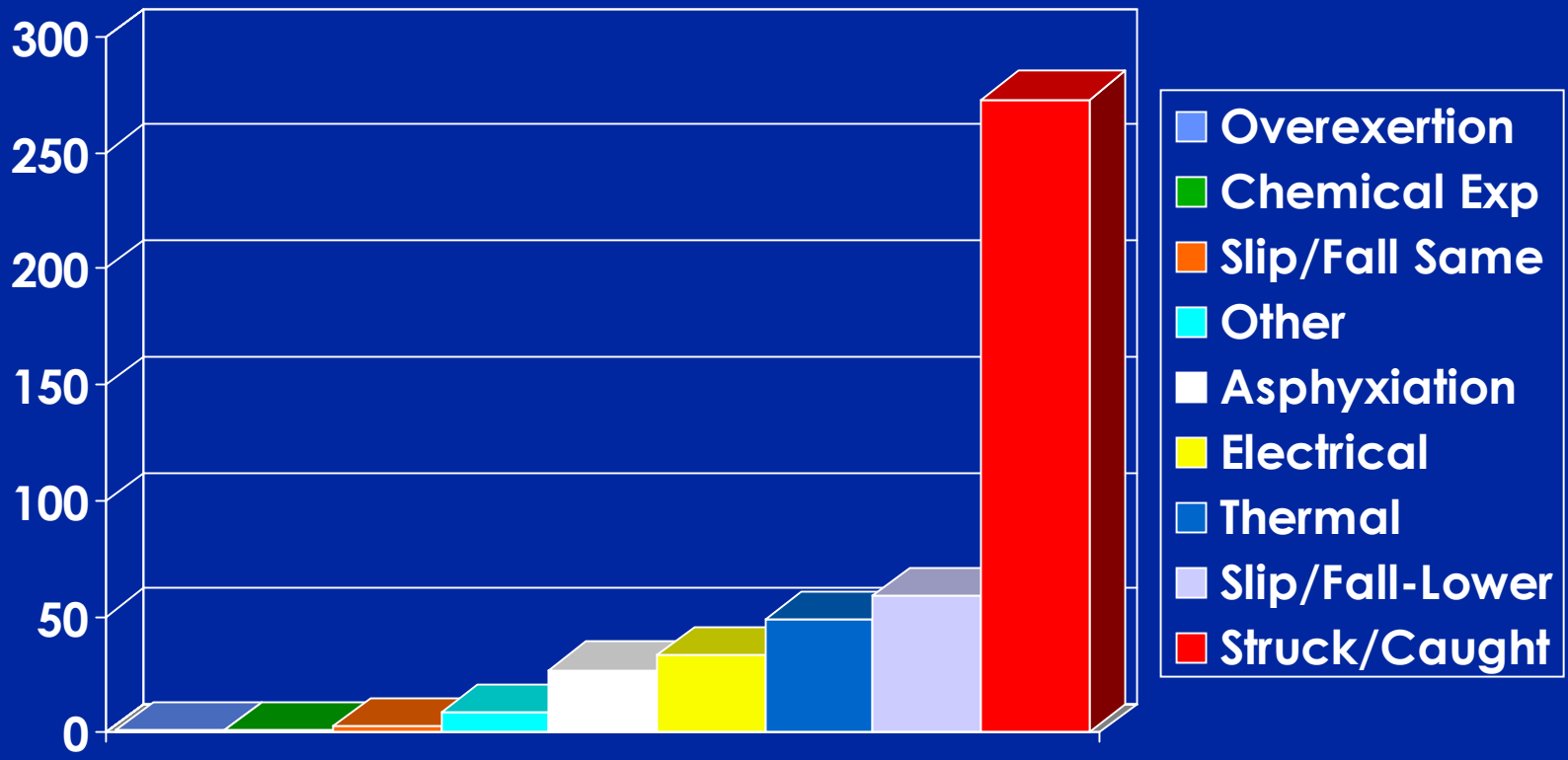
Fatalities by Sector



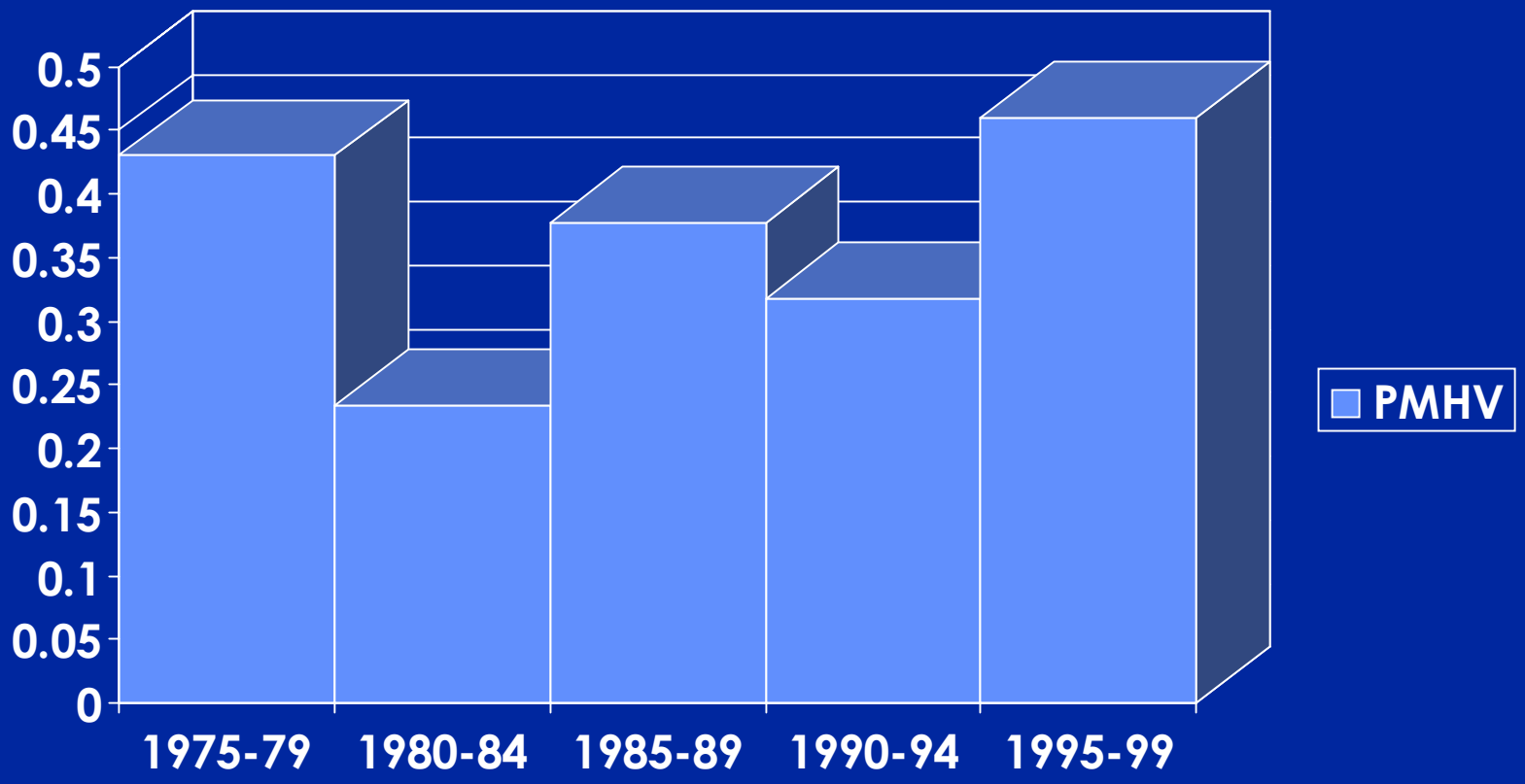
Fatalities: 1973-2000



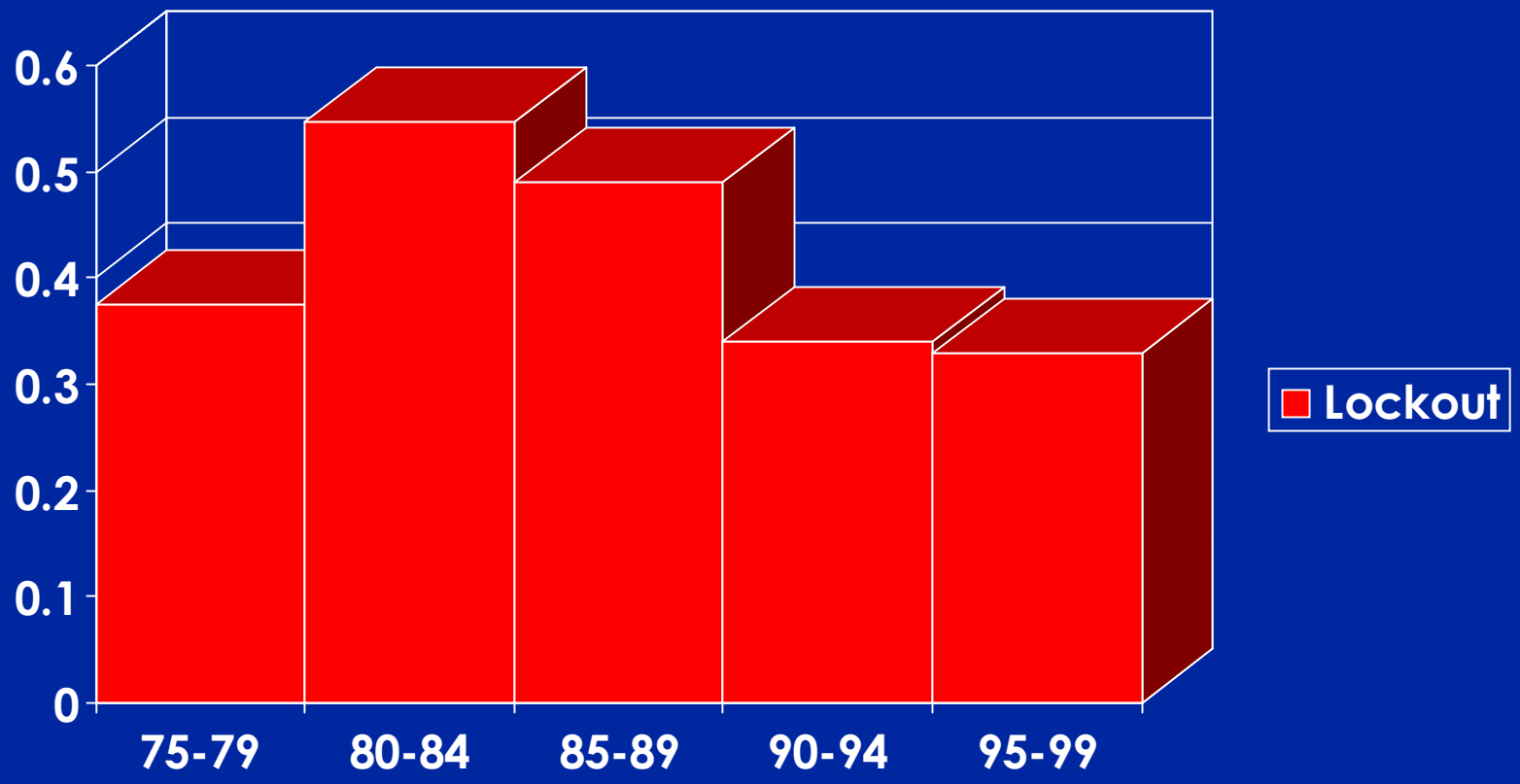
Contact Causing Death



Powered Material Handling Vehicles (PMHV) Fatalities



Fatalities from Lockout



Lessons Learned

UAW Health and Safety Department

Fatality Report
Lazaro Fuentes

Injured Person:
Lazaro Fuentes

Location:
DaimlerChrysler
Jeep Assembly Plant
Local 12/Region 2B

Age:
50 years

Job Title:
Machine Repair

Seniority:
12 years

Date of Incident:
May 17, 2000

UAW HEALTH & SAFETY DEPARTMENT
8000 East Jefferson
Detroit, Michigan 48214

Phone: (313) 926-5563
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opeiu494AFL-CIO

Summary

On May 17, 2000 at approximately 4:30 PM, machine repairman, Lazaro Fuentes, suffered fatal injuries as a result of being caught between a moving transfer rail and fixture tooling and a part on the RWC body side line at the DaimlerChrysler Jeep Assembly Plant. The victim and another machine repairmen were attempting to replace a pneumatic valve that controls the function of a robot spot welder. A machine repairman placed the robot control in the "service required" mode, pulled the gate interlock plug, and entered the cell. The victim entered the cell through the same gate. The defective valve was removed. The victim stepped up onto and crossed the line to get the replacement valve from another machine repairman. He reached over the fence guard and was handed the replacement part. As he returned, crossing the line, the transfer rails began to move to the "home" position, crushing the victim between the transfer tooling and stationary tooling and a side body panel. (The transfer rails travels about 20 feet in 6 seconds.)

An electrician was standing in the gate opening. He noticed the transfer moving and ran to the station control panel about 10 feet away. He repeatedly pushed the cycle stop and emergency stop buttons but the transfer continued to move. The machine repairman at the fence guard on the other side of the line pulled the gate interlock plug, entered the cell and stepped on a safety mat but the transfer continued to move.

Conclusions

The RWC line was not properly safeguarded. Removal of the gate interlock plug did not prevent the transfer from moving and did not take the line out of automatic mode. The primary cause of this incident was ineffective safeguarding devices. In addition, failure to implement and enforce the lockout procedure was a major factor. The lockout/energy control program did not clearly define what tasks and types of service and repair could be done under specific methods of energy control. Some emergency stop devices on the line (including the device pushed by the electrician at the time of the incident) did not comply with *Electrical Standard for Industrial Machinery*, NFPA 79-1997 or *Automation Safeguarding Requirements for Design, Construction, Manufacturing and Installation of Automated Systems,* DaimlerChrysler Manufacturing Technical Instruction SMI-145, in that actuation did not immediately stop movement of all hazardous motion.

Recommendations

1. Improve safeguarding on the RWC line by insuring that pulling a gate interlock plug will: 1) remove drive power from robots and all associated equipment (transfer, hydraulic/pneumatic lift and clamps) that can create a hazard, 2) take the system out of automatic mode, and 3) require closing of the gate, insertion of the gate plug and a deliberate action outside the safeguarded space to resume automatic operation. Safety devices should be periodically tested.

Fatality Database Summary

- Fatalities had been trending downward until 2000
- Skilled trades overall still an issue
- Machine guarding/lockout
- Mechanical material handling needs to be addressed

Events Leading Up to Establishment of GM Mortality Registry

Lead in Car Bodies

- Hunter, D., *Diseases of the Occupations,* 5th edition, London, Hodder and Stoughton Educational, pp. 255(1975)
- uncontrolled solder grinding
- 4000 cases of lead poisoning, 12 deaths
- Dr. Cary McCord develops analytical method for lead in Chrysler laboratory
- Founding of Michigan and American Industrial Hygiene Associations

Early Metalworking Fluid Study

- "Further analysis of cancer mortality patterns among workers exposed to cutting oil mists", Decoufle P, *J Natl Cancer Inst*; 61:1025-30 (1978)
- Data collection ended 1967
- 2-fold excess mortality from stomach cancer among high exposed workers, not statistically significant

Early Foundry Study

- "Mortality patterns among workers in a gray iron foundry," Decoufle P; Wood DJ, *Am J Epidemiol* 109(6):667-75 (1979)
- Data collection through 1967
- 2-fold excess of lung cancer among long latency employees

UAW Cancer Program and Policy

- Announced by Douglas A. Fraser at American Occupational Health Conference, Cobo Hall, April 22, 1980
- Administrative Letter
- Investigations
- UAW studies
- Collective Bargaining
- OSHA standards

Pattern and Model Makers

- Complaints to UAW from GM Tech Center and Local 160
- Detroit News Series
- Michigan Cancer Foundation says no problem without study
- NIOSH study of Patternmakers League death records shows excess colon cancer
- 3 studies in GM confirm cancer excess
- Study in Chrysler confirms cancer excess

Pattern and Model Makers (Continued)

- COLORECTAL CANCER
- Robinson, C, et al, "Pattern and modelmakers: Proportionate Mortality," *Am J Ind Med*, 1:59-165(1980)

  Swanson G. and S. Belle, "Cancer morbidity among woodworkers in the US automotive industry," *J. Occup. Med*, 24: 315-319(1982)

  Swanson, et al, "Colon cancer incidence among modelmakers in the automobile manufacturing industry," *J. Occ. Med*, 27: 567-569(1985)

Plating and Die Cast (Hardware)

- LUNG CANCER
- Silverstein, M., F.E. Mirer, D. Kotelchuck, B. Silverstein and M. Bennett, "Mortality among workers in a die cast and electroplating plant," *Scan. J. Work, Environment and Health*, 7: 156-165(1981)
- 2 fold plant wide
- Case control study finds association with integrated departments sharing zinc die cast and chrome, nickel plating operations.

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Volume 32 APRIL 18, 1980 Printed in USA Letter No. 3

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IN THIS ISSUE:

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A RESPONSE TO THE HAZARD OF OCCUPATIONAL CANCER IN UAW PLANTS

To All Local Unions:

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GREETINGS:

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This letter is for the purpose of announcing a program of planned response to reports of increased cancer among workers in UAW plants.

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I. BACKGROUND

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The UAW has had an occupational health and safety program with professional consultants on staff for the past 31 years. The staff was enlarged and expanded with the passage of OSHA in 1970. Contracts have built in protection and rights for UAW members well beyond those provided by the law. Trained full-time and part-time Health and Safety Representatives in hundreds of plants across the country are able to identify and document safety and health hazards. As a result many unsafe or unhealthy conditions have been abated. This program is oriented to prevention and early identification of known hazards. It is continuing.

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As a result of the success of this program, there is now increasing and justified concern about chemical hazards to health in the workplace and specifically about the possibility of cancer arising from exposure to cancer-causing substances. Scientific studies some in UAW represented plants, have found an increased proportion of cancer deaths among wood model makers, workers in machining operations, foundry workers, and workers in vehicle assembly plants. The causes of these increases have not been identified.

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In addition to mortality studies among UAW members we can document the exposure of workers in the metal-working industries to known or strongly suspected cancer-causing agents, such as asbestos, chromate pigments and plating solutions, coke oven emissions, cutting fluids, and certain solvents. The connection between these exposures and an increased proportion of cancer deaths among our members is suspected, but not scientifically established.

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II. NEW OSHA CANCER POLICY

OSHA has recently announced a new policy for the regulation of cancer-causing substances in the workplace which will greatly speed up the process of setting standards to eliminate such hazards once they have been identified. Therefore, when new information is developed and forwarded to the appropriate agencies, it can be related to the new government policy.

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When in Doubt About International Policy . . . Contact Your Regional Director

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History of GM Mortality Registry

Data fields in Mortality Registry

- SSN
- Name
- CISCO
- Pay Status
- Date of Death
- Gender
- Race
- Date of Birth
- State of Death
- ICD-9 Codes
- Date First Worked at GM
- Years of Credited Service

UAW Research: A Summary

211 Studies Conducted to date:

- Cancer Studies *(85)*
- IH (Exposure) Studies *(34)*
- Respiratory Studies *(30)*
- Ergonomics Studies *(21)*
- Hearing Loss Studies *(11)*
- Injury Studies *(10)*
- Other *(20)*